

[54] **ELECTRICAL PROBE-POSITION RESPONSIVE APPARATUS AND METHOD**

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[56] **References Cited**

UNITED STATES PATENTS

2,900,446	8/1959	McLaughlin	178/18
3,032,609	5/1962	Fluhr et al.	178/18
3,152,238	10/1964	Anderson	324/71 EB
3,207,902	9/1965	Sandborg	324/71 EB
3,423,528	1/1969	Bradshaw et al.	178/19
3,524,998	8/1970	Gilbert	307/299
3,541,439	11/1970	Shriver	324/71 EB

FOREIGN PATENTS OR APPLICATIONS

1,133,757 11/1968 Great Britain.....324/71

OTHER PUBLICATIONS

Bradshaw, R. D. and Jensen, H. H. Electrographic Data Sensing. in IBM Technical Disclosure Bulletin, Vol. 9, No. 1 1966 TK 7800 I. 13. pp. 35- 36.

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[57] **ABSTRACT**

Position responsive apparatus is disclosed comprising a sheet of substantially uniform resistivity having first and second parallel, linear electrodes in electrical contact therewith. A movable, electrically conductive probe is energized from one pole of a current source whose other pole is connected to the two electrodes in parallel. Means are provided for comparing the current flowing through one electrode, when the probe is in contact with the surface, with the current flowing through the other electrode or with the total current. It is found that the ratio of the current through the first electrode to the current through the second electrode corresponds to the ratio of the distance of the probe contact point from the second electrode to the distance of the said point from the first electrode. A second pair of linear electrodes, arranged perpendicular to the first pair so as to form therewith the four sides of a square, may be provided. If the second pair of electrodes are energized, with respect to the probe, in the same manner as the first pair but alternately therewith, then x and y co-ordinates of the point of contact between the probe and the surface may be produced.

12 Claims, 4 Drawing Figures

